Abstract. $p$-adic numbers were introduced in 1897 by the German mathematician K. Hensel. The field $Q_p$ of $p$-adic numbers is defined as the completion of the field of the rational numbers $Q$ with respect to the non-Archimedean $p$-adic norm $|\cdot|_p$. In this talk, we introduce the continuous shearlet system on $L^2(Q^2_p)$ and we obtain its inversion formula. Also we introduce discrete $p$—adic shearlet frame. In the definition of the shearlet system we use the parabolic scaling matrices $A_a$ in $Q_p$, which is different from its definition in $\mathbb{R}$. Also we define the classical shearlets, a class of particular importance shearlets.

Keywords: $p$-adic numbers, Fourier transform, continuous $p$—adic shearlet transform, $p$—adic shearlet system.


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